

MIDInet

NS-02-0790

Overview

This section introduces you to the capabilities of MIDInet, a multiport MIDI routing and processing unit designed to interface with the Synclavier and Direct-to-Disk systems.

About MIDInet

The MIDInet unit has eight input ports and eight output ports located at the rear of the unit to connect with MIDI devices. A Syncnet port connects the unit to the Synclavier; there is also an expansion port to connect additional MIDInet units. Expansion units are available to provide up to 128 MIDI input and output ports. With MIDInet, the Synclavier or Direct-to-Disk can function as the master controlling device in any MIDI setup.


MIDInet receives MIDI data from the Synclavier, processes it, and sends the result to MIDI output ports. It can also receive data from MIDI input ports, process it and send it to the Synclavier and/or MIDI output ports. As many as 128 Synclavier tracks can be addressed.

The MIDInet window controls all routing and processing. You can create an archive of MIDInet routings by storing either complete setups or setup selections as MIDInet files. The current MIDInet file is linked to the current sequence. When you save a sequence in the usual way (see *Sequence Editing* or *Sequence Editing from the Keyboard*), the name of the current MIDInet file is saved with it. When you recall a linked sequence with MIDInet running, you can automatically recall its linked MIDInet file.

Displaying MIDInet

To use MIDInet, MultiFinder must be running. See the section "Running other software" in the *Introduction* manual.

MIDInet is displayed in a separate window and has a set of pulldown menus that appear in the menu bar at the top of the screen when the module is active. To open the MIDInet window from the Finder, double-click the MIDInet icon. If the RTP window is already open, select Transfer to Applications from the Window menu.

If  is visible in the upper right corner of the MIDInet window, your Macintosh is successfully communicating with the Synclavier computer and MIDInet module. If it is not visible, the communications link is incomplete. Check that the cables have been properly connected and the correct software has been installed.

If the RTP window is displayed in mid- or half-size, you can view the RTP window and the MIDInet window at the same time.

Use the Scroll Bars to scroll to any areas of a MIDInet file that are not visible in the window.

Overview (con't)

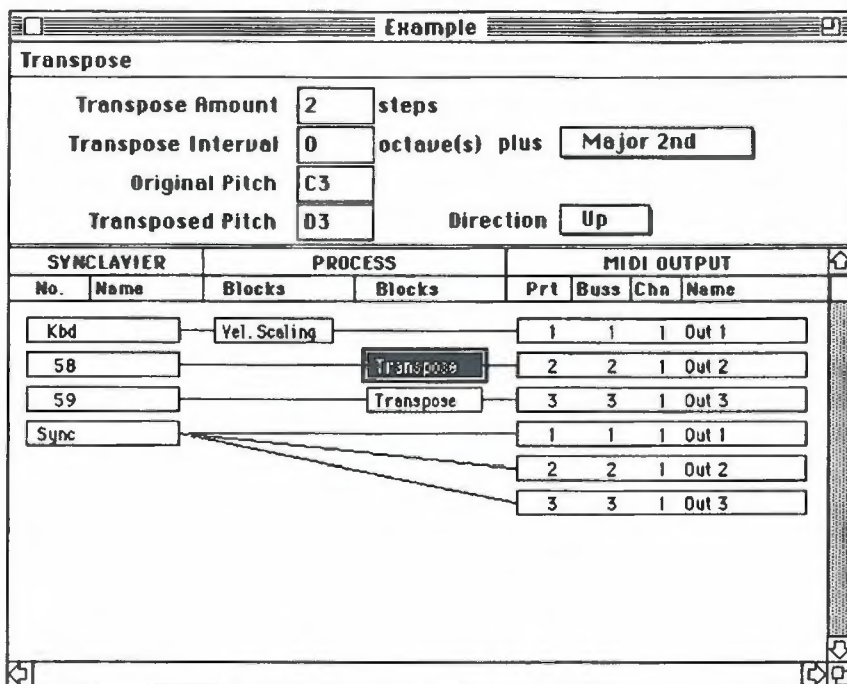
Displaying MIDInet (con't)

When the MIDInet window is active, you can customize it for optimum use with the **Display Preferences . . .** command from the Special menu.

You can adjust the width of any column heading by dragging the lower part of the vertical dividing lines.

The **Save Display Preferences . . .** command from the Special menu allows you to make the current display setup the default.

MIDI data “flows” through MIDInet from left to right. When two or more routings connect to the left (input) side of a single block, the MIDI data from all paths is automatically merged. When two or more routings connect to the right (output) side of a single block, the MIDI data from the block is automatically duplicated and sent along all the paths.



MIDInet window

Dialog area

Column headings

Routing area

In the illustration above, the Synclavier keyboard and sequencer tracks 58 and 59 are routed through process blocks to MIDI output ports 1-3. Synclavier synchronization signals are routed to the same output ports.

The dialog area shows a dialog for the selected block.

Unused elements of the display to the left of the Synclavier columns have been removed using the Display Preferences dialog from the Special menu.

The lower two-thirds of the MIDInet window contains all the routing information. When you open a new MIDInet file, this routing area is blank except for a target block in the upper left corner. You create input, process or output blocks by moving the target block and pressing Return. (Click where you want to create a new block or move the target block in any direction with the arrow keys.)

Select a single block by clicking on it; select a group of blocks by dragging; add or remove random blocks from the selection by Shift-clicking. Selected blocks can be edited using the commands on the Edit menu.

Connect existing blocks by dragging from the right side of one block to the left side of the other. Create and route blocks simultaneously by dragging from the right side of any column or block to another column. Connect multiple blocks to a single block or vice versa using the **Connect From** and **Connect To** commands on the Edit menu. Select the source block(s), select **Connect From**, select the destination block(s), select **Connect To**. Complete the operation by selecting the **Connect From** command again. Remove multiple connections by reversing the process.

Synclavier tracks

Each Synclavier track addressed is assigned its own routing and timbre, even if it is an empty timbre.

MIDInet routing remains with the timbre when Synclavier track changes are made. For example, if you bounce track 3 to track 5, any MIDInet routing for track 3 is also bounced to track 5.

Similarly, MIDInet routings set up for the Synclavier keyboard are applied to the track selected automatically for recording.

Timbres moved by SMT or SKT also retain their routings. When necessary, additional blocks are created automatically to accommodate the added routings.

When the **Show All Active Tracks** feature on the Special Menu is selected, MIDInet automatically shows all active tracks at each occurrence of the following:

- Create new file
- Open file
- Revert to saved
- New tracks created/deleted in Synclavier
- New sequence recalled
- MIDInet module started

When a track routing is deleted by the Synclavier, either by erasing a track or replacing its contents with SKT or SMT, all MIDInet blocks (except the track blocks themselves) which are a part of that routing are deleted automatically.

Tracks which are erased when **Show AllActive Tracks** is selected cause the corresponding track blocks in MIDInet to be deleted.

MIDI assignments

All MIDIInet assignments are made in the dialog area. When you select an input, output or Synclavier block, assignment fields appear in the dialog area. Press Tab to move the cursor from field to field; press Return to complete the data entry.

Assignments for input and output blocks include name, port and channel. As long as only eight output ports are used, buss assignments are automatic. When necessary, one buss can be assigned to drive two or more ports. Use different channels to direct data from one buss to the desired destination device.

Synclavier assignments include track name, track number and timbre name; the Track Number field also accepts K for keyboard or S for synchronization.

Block arrangement

You can "clean up" the MIDI network by sorting any input or output column by port, channel, name or (output only) buss. The Synclavier column can be sorted by track name or number. Click the subhead in the desired column. Blocks in the column are sorted alphabetically or numerically and other columns are rearranged so that connections are straight across. Duplicate blocks are added or removed as required.

MIDIInet process blocks

Process blocks are used to change and manipulate MIDI data as it passes through MIDIInet. Any routing can include one or more of these blocks with processes selected from the Process menu. When you select a process, a dialog allows you to set parameters exactly to your needs.

Detailed information for the **Controller Filter**, **Controller Map** and **Velocity Scaling** processes is given in the Basic Techniques section.

MIDI monitor

The MIDIInet monitor displays all incoming MIDI events for the selected block in the dialog area.

Note On	C3	Chn 01	Vel 127	
Note Off	C3	Chn 01	Vel 000	
Program Change	001			
Control Change	007	Chn 01	Val 064	Main Volume

The data displayed is always that which is received at the selected block location. For example, if the selected block is a transpose block, the MIDI events are displayed before the transposition is applied. To see the results of the transposition, monitor the next block in the chain.

Up to eight events are displayed at one time; the window then scrolls to additional events. So long as the monitor is active, you can move around the routing area and monitor activity at any location.

To turn the monitor on or off, select **Monitor** from the Special menu.

MIDIInet menus

This section briefly describes each MIDIInet menu command.

File		
New		%N
Open...		%O
Merge...		%M
Close...		%W
Save		%S
Save As...		
Save Selection...		
Revert to Saved		
Delete...		

Close MIDIInet™		
Quit		%Q

File menu

New creates a new, blank MIDIInet file which replaces the current file.

Open... opens a previously-created file which replaces the current file.

Merge... adds the contents of a designated MIDIInet file to the current MIDIInet file at the target block location.

Close... closes the current file.

Save saves the current file to disk. A previously-saved file has its changes saved; the Save As dialog appears for an untitled file.

Save As... lets you name and save an untitled file or rename a previously-saved current file.

Save Selection... stores a selected part of the current file including assignments and connections.

Revert to Saved replaces the edited version of the current file with the version that was last saved on disk.

Delete... deletes the designated file.

Close MIDIInet closes MIDIInet while remaining in the RTP.

Quit closes MIDIInet and returns to the Finder.

Edit menu

Undo reverses the last editing action in the file. Note: SKT, SMT or any Sort cannot be undone.

Cut removes the selected block(s) along with their assignments and connections and places them on the clipboard.

Copy places a copy of the selected block(s) along with their assignments and connections on the clipboard.

Paste pastes the clipboard contents at the selected block or target block.

Clear removes the selected block(s) without placing them on the clipboard.

Connect From designates block(s) from which a multiple connection is to be made. Also use to complete multiple routing.

Connect To designates block(s) to which a multiple connection is to be made.

Window menu

Module lists available modules on a pop-up menu. Select the desired module from the menu.

✓ **Filename** shows the name of the file currently displayed.

MIDInet menus (con't)

Edit	
Undo	⌘Z
Cut	⌘H
Copy	⌘C
Paste	⌘V
Clear	⌘B
Connect From	⌘F
Connect To	⌘T

Window	
Module	▶
✓ Filename	

MIDInet menus (con't)

Process

Channel Map
Controller Filter
Controller Map
Event Filter
Pitch Filter
Transpose
Velocity Scaling

Process menu

Each command on the process menu assigns that process to the selected block and brings a dialog to the dialog area. Parameters set on the dialog are applied to the selected process block. Complete instructions for **Controller Filter**, **Controller Map** and **Velocity Scaling** are in the Basic Techniques section.

Channel Map changes the channel of a MIDI signal.

Controller Filter removes or passes selected MIDI controller data.

Controller Map connects any controller input to any controller.

Event Filter removes selected MIDI events.

Pitch Filter removes any pitch or group of pitches.

Transpose alters the pitch values of MIDI data.

Velocity Scaling changes the relationship of velocity input to velocity output.

Special menu

Clean Up Window rearranges the routing area so that all connections are straight across. Duplicate blocks are created or removed as required.

Display Preferences... customizes the MIDInet window. Select or deselect input, output or Synclavier columns; select the desired number of process columns.

Save Display Preferences... replaces window defaults with the current file configuration.

Show MIDInet™ Tracks Only shows Synclavier track blocks with MIDInet connections. Deletes track blocks irrelevant to MIDInet.

Show All Active Tracks adds blocks in the Synclavier column to display all currently active tracks.

Refresh MIDInet™... re-applies the MIDInet connections of the displayed screen and sends a Note-Off message to all connected devices.

All Notes Off... sends a Note-Off message to all connected devices.

Reset MIDInet™... resets MIDInet hardware.

Monitor monitors MIDI events entering the selected block and displays them in the dialog area.

External Sync lets you select a synchronization mode: Internal, MIDI Input, MIDI Aux, or MIDInet™.

Special	
Clean Up Window	
Display Preferences...	⌘D
Save Display Preferences...	
<hr/>	
✓ Show MIDInet™ Tracks Only	
Show All Active Tracks	
<hr/>	
Refresh MIDInet™	
All Notes Off...	⌘A
Reset MIDInet™...	
<hr/>	
Monitor	⌘R
<hr/>	
External Sync	▶

Basic MIDInet techniques

This section provides detailed instructions for performing some of the basic MIDInet operations.

Set up the display

You can customize the MIDInet window to include only those elements required by a specific operation.

1. Select **Display Preferences** from the Special menu.
2. Select the desired input, output and Synclavier columns.
3. Select the number of process columns.

Move the borders between column headings by dragging their lower ends to the desired position.

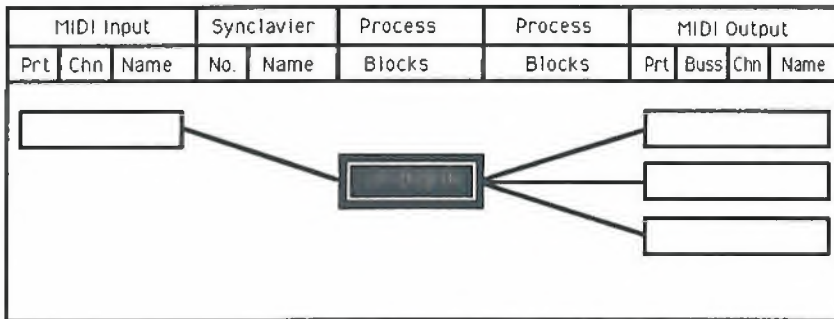
Make your customized MIDInet window the default by selecting **Save Display Preferences** from the Special menu.

Set up a MIDI network

You set up a MIDI network by connecting blocks for each input, output and MIDI process.

1. Create an input block by pressing Return when the target block is in the input column.
2. Create a process block connected to the input block by dragging from the right side of the input block to a position in the process column.
3. Create three output blocks by placing the target block in the output column with either the mouse or the arrow keys. Press Return and move the target block for each new output block.
4. Connect the process block to the three output blocks: Select the process block, then select **Connect From** on the Edit menu; select the three output blocks, then **Connect to** on the Edit menu. Complete the command by selecting the **Connect From** command again.

A simple MIDInet network



This simple network can be expanded to create any desired setup. Remember that block connections are always made from left to right.

Assign input, output and Synclavier block parameters

Input

1. Select the desired input block.
2. Enter the appropriate information in the dialog area. Use Tab to move from item to item.

Regardless of the number of input ports, only eight can be active at once.

Synclavier

1. Select the desired block.
2. Enter the appropriate information.

Track Number can be keyboard (Kbd or K), Synchronization (Sync or S) or track number 1 to 128.

Output

1. Select the desired output block.
2. Enter the appropriate information.

As long as only eight output ports are used, buss assignment is automatic. When there are more than eight, some busses can be assigned to drive two or more ports. Use different channels to direct data from one buss to the desired destination device.

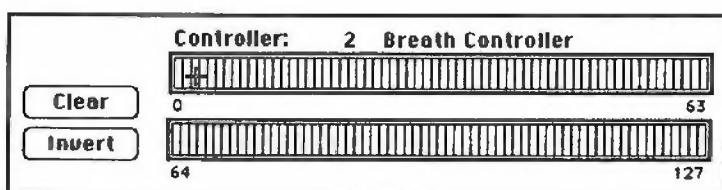
More than one buss cannot be assigned to one port.

Process the MIDI data

1. Select the desired process block.
2. Select a process from the Process menu.
3. Enter data in the dialog area.

Most of the process dialogs are intuitive. Detailed instructions for three processes follow.

Controller Filter



Controller Filter removes MIDI data for the selected controller. It is also used to show controller numbers for use in the Controller Map dialog.

1. Move the cursor across the segmented display to view MIDI controller numbers and names.
2. Click the desired segment.

The controller selected is filtered out.

Invert filters out non-selected controller signals. **Clear** removes all filter selections.

Process the MIDI data (con't)

Controller Map

Controller Map	
Map	To
<input checked="" type="radio"/> Poly Pressure	<input checked="" type="radio"/> Poly Pressure
<input type="radio"/> Control Change	<input type="radio"/> Control Change
<input type="radio"/> Channel Pressure	<input type="radio"/> Channel Pressure
<input type="radio"/> Pitch Bend	<input type="radio"/> Pitch Bend

Controller Map maps any controller to any other controller.

1. Select a controller to map by clicking one of the radio buttons in the left column.

If you clicked Poly Pressure, also enter a note designation (C4, F# 3, etc.).

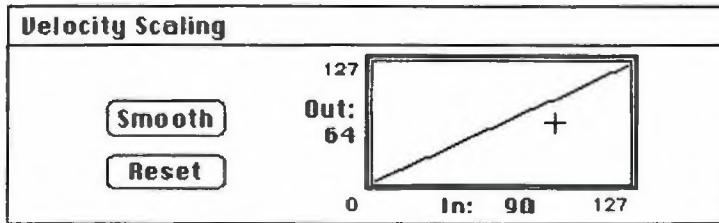
If you clicked Control Change (for controllers other than those listed), enter the controller number. This number is obtained from the Controller Filter dialog.

2. Select the controller to be mapped to by clicking one of the radio buttons in the right column.

If you selected Poly Pressure or Control Change enter the note designation or controller number as above.

Process the MIDI data (con't)

Velocity Scaling



Velocity Scaling changes output velocity in relation to input velocity. Zero represents no velocity, 127, the greatest velocity. The default diagonal line represents output velocity (y-axis) equal to input velocity (x-axis) throughout the entire range. **Out:** and **In:** show output and input velocity for the cursor position.

To change the relationship in a general way, drag the cursor to redraw the diagonal line. Whenever the redrawn line is above the default line, the output is greater than the input; whenever the new line is below the default line, the output is less than the input.

For more accurate settings use the following procedure.

1. Move the cursor left or right until the desired input value is displayed after "IN."
2. Move the cursor up or down until the desired output value is displayed under "OUT."
3. Click to set the displayed values.
4. Repeat for each value to be changed.

Reset restores the original diagonal line; **Smooth** smooths any jagged corners of a newly drawn line.

MIDI synchronization

To synchronize the Synclavier to an external MIDI device:

1. Select **External Sync: MIDIInet** on the Special menu.
2. Create a Sync block in the Synclavier column.
3. Connect the desired MIDI device input block to the Sync block.

MIDI clock signals from the device now control the Synclavier sequencer.

To synchronize an external device to the Synclavier:

1. Select **External Sync: Internal** on the Special menu (default).
2. Create a Sync block in the Synclavier column.
3. Connect the Sync block to the desired MIDI device output block.

MIDI clock signals from the Synclavier now control the MIDI device.

Monitor MIDI data

You can display the MIDI data entering any MIDIInet block.

1. Select the block to be monitored.
2. Select **Monitor** from the Special menu.

As the MIDI network operates, the dialog area shows MIDI data entering the selected block.

Store a selected part of the setup

You can store single blocks, groups of blocks with their connections, or even whole setups.

1. Select the desired part of the file by dragging over it. Shift-click to add or remove blocks from the selection.
2. Select **Save Selection** from the File menu.
3. Enter a name for the file and select a folder and/or drive, if desired.*
4. Click the **Save** button.

The selected part of the set-up is saved as a MIDInet file.

Merge an old file with the current file

You can place any stored file into the current file provided its columns match those at the position of the target block.

1. Select **Merge** from the File menu, or double-click at the desired location.

The Merge dialog lists the MIDInet files available.

5. Double click the file desired file; or select it and click **Open**.

The file is placed at the target block position.

* If you are unfamiliar with this procedure, see your Macintosh manual.